



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,556	04/23/2008	Lonnie Goff	US03 0279 US	9580
65913	7590	02/05/2009		
NXP, B.V. NXP INTELLECTUAL PROPERTY DEPARTMENT M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			EXAMINER ARCOS, CAROLINE H	
			ART UNIT 2195	PAPER NUMBER
			NOTIFICATION DATE 02/05/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/568,556	Applicant(s) GOFF ET AL.	
	Examiner CAROLINE ARCOS	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11 are pending for examination.

Oath/Declaration

2. The oath is defective because the applicant claims priority to provisional application 60/496,958, but it not reflected in the oath. Applicant is required to submit a new oath.

Specification

3. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
4. The specification is objected because it fails to acknowledge the provisional application priority of the instant application in Cross reference or related application section in the specification.
5. Applicant is advised that Content of Specification should follow the following format:
 - (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
 - (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
 - (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

Art Unit: 2195

- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Drawings

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, claims 4 and 8-11

Art Unit: 2195

limitation must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

7. The drawings are objected to as it fail to provide any description or name reference to the references numbers.

8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2195

10. Claims 5-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

11. As to claim 5, the claim reads on mental process or the manipulation of an abstract idea. The claim limitations are not explicitly directed toward steps being implemented on a computer. As such, they could be carried mentally in conjunction with pen and paper. The claimed steps do not define a machine or computer implemented process (see MPEP 2106). Therefore, the claimed invention is directed to non statutory subject matter. Claims 6-11 are rejected for similar reasons as discussed for their respective parent claims, as they fail to present any limitations that resolve the deficiencies of the claims from which they depend. (The examiner suggests applicant to change “a method for managing multiple tasks” to “a computer implemented method for managing multiple tasks” in order to overcome this 101 issue).

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 4,8-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following claim language is not clearly understood:

i. As per claim 4, lines 3-5, it is not clearly understood what are the criteria for alternating between first a write to the index register or a write

Art Unit: 2195

to the data register and second a write to the index register and a read to the data register.

ii. As per claim 8, it has same deficiency as claim 4.

iii. As per claim 9, it has same deficiency as claim 4.

iv. As per claim 10, it is not clearly understood what are the criteria for steering the read and write accesses to the index register and the data register.

v. As per claim 11, it has same deficiency as claim 10.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-3, 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halstead et al. ("MASA: A multithreaded processor Architecture for parallel symbolic computing", IEEE, 1988, pages 443-451), in view of Nation et al. (US 6,233,599 B1).

16. As per claim 1, Halstead teaches the invention substantially as claimed including a computer-based software task management system, comprising:

an index register configured to store a data register pointer for pointing to a data register ; a Task register coupled to the index register and configured to store a Task keyed to the index register; a Task memory coupled to the Task register and configured

Art Unit: 2195

to store a flag indicating whether the Task is available; and a state machine coupled to the Task memory and configured (a) to receive a Task request from a task, (b) to determine whether a Task is available in response to the Task request, (c) when a Task is available, to issue a Task to the task and set the flag in the Task memory indicating that the Task is in use, and (d) when the task is complete, to reset the flag in the Task memory indicating that the Task is available (pg. 445, right col., lines 22-28; pg. 446, left col., lines 1-13; pg. 446, lines 33-52).

17. Halstead teaches task frames and does not explicitly task ID. However, Nation teaches task ID (abs., lines 16-18; col. 7, lines 11-19; col. 7, lines 38-45; col. 8, lines 33-46).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Halstead and Nation because Nation teaching of task ID associated with a register would add an alternative design choice to the system of Halstead which will improve system flexibility that the system not only searching task frames numbers availability but it can be searching by task ID availability.

19. As per claim 2, Halstead teaches a plurality of index registers each configured to store a data register pointer for pointing to a data register a plurality of Task registers each coupled to the index register and each configured to store a Task ID keyed to a respective index register; a plurality of Task ID memories each coupled to the Task ID register and configured to store a flag indicating whether a respective Task ID is

Art Unit: 2195

available; and wherein the state machine is configured to manage a plurality of tasks with the plurality of index registers, Task registers and Task memory(pg. 445, right col., lines 22-28; pg. 446, left col., lines 1-13; pg. 446, lines 33-52).

20. Halstead teaches task frames and does not explicitly task ID. However, Nation teaches task ID (abs., lines 16-18; col. 7, lines 11-19; col. 7, lines 38-45; col. 8, lines 33-46).

21. As per claim 3, Nation teaches that wherein each index register is uniquely associated with a different Task ID(abs., lines 16-18; col. 7, lines 11-19; col. 7, lines 38-45; col. 8, lines 33-46).

22. As per claim 5, Halstead teaches a method for managing multiple tasks using an index register, comprising: (a) receiving a Task request from a task; (b) determining whether a Task is available in response to the Task request; (c) when a Task is available, issuing a Task frame to the task and setting a flag in a Task memory indicating that the Task is in use, and (d) when the task is complete, resetting the flag in the Task memory indicating that the Task is available(pg. 445, right col., lines 22-28; pg. 446, left col., lines 1-13; pg. 446, lines 33-52).

23. Halstead teaches task frames and does not explicitly task ID. However, Nation teaches task ID (abs., lines 16-18; col. 7, lines 11-19; col. 7, lines 38-45; col. 8, lines 33-

Art Unit: 2195

46).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Halstead and Nation because Nation teaching of task ID associated with a register which would add an alternative design choice to the system which will improve system flexibility that the system not only searching task frames numbers availability but it can be searching by task ID availability.

25. As per claim 6, Halstead teaches that the determining step includes the step of determining whether a Task frame is available from the plurality of Tasks in response to the Task request (pg. 445, right col., lines 22-28; pg. 446, left col., lines 1-13; pg. 446, lines 33-52).

26. Halstead teaches task frames and doesn't explicitly teach task IDS and using a plurality of index registers with a Task ID associated with each index register.

27. However, Nation teaches task IDS and using a plurality of index registers with a Task ID associated with each index register (abs., lines 16-18; col. 7, lines 11-19; col. 7, lines 38-45; col. 8, lines 33-46).

28. As per claim 7, Halstead teaches when a Task is not available, periodically requesting a Task(pg. 445, right col., lines 22-28; pg. 446, left col., lines 1-13; pg. 446,

Art Unit: 2195

lines 33-52).

29. Claims 4 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halstead et al. ("MASA: A multithreaded processor Architecture for parallel symbolic computing", IEEE, 1988, pages 443-451), in view of Nation et al. (US 6,233,599 B1) as applied to claims 1 and 5 above, and further in view of Schulz et al. (US 6,314,486 B1).

30. As per claim 4, The combined teaching of Halstead and Nation doesn't explicitly teach a flip-flop circuit coupled to the index register and configured to cause the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to the data register pointed to by the index register; and a read cycle to the data register pointed to by the index register.

31. However, Schulz teaches flip-flop circuit coupled to the index register and configured to cause the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to the data register pointed to by the index register; and a read cycle to the data register pointed to by the index register (abs., lines 1-14; col. 4, lines 28-67; col. 5, lines 1-40).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Halstead, Nation and Schulz because Schulz teaching of usage of flip flop circuitry to toggle between read and write is obvious to one of ordinary skill in the art at the time the invention was made to control read/write operation and

Art Unit: 2195

regulate the process of accessing the register by a signal that toggles the access.

33. As per claim 8, The combined teaching of Halstead and Nation doesn't explicitly teach the step of: causing the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to a data register pointed to by the index register; and a read cycle to the data register pointed to by the index register.

34. However, Schulz teaches causing the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to a data register pointed to by the index register; and a read cycle to the data register pointed to by the index register.

35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Halstead, Nation and Schulz because Schulz teaching of usage of flip flop circuitry to toggle between read and write is obvious to one of ordinary skill in the art at the time the invention was made to control read/write operation and regulate the process of accessing the register by a signal that toggles the access.

36. As per claim 9, the combined teaching of Halstead and Nation doesn't explicitly teach the step of: causing the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to a data register pointed to by the index register; and a read cycle to the data register pointed to by the index register.

Art Unit: 2195

37. However, Schulz teaches the step of: causing the task to alternate between a write cycle to the index register and one selected from the group consisting of: a write cycle to a data register pointed to by the index register; and a read cycle to the data register pointed to by the index register (abs., lines 1-14; col. 4, lines 28-67; col. 5, lines 1-40).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Halstead, Nation and Schulz because Schulz teaching of usage of flip flop circuitry to toggle between read and write is obvious to one of ordinary skill in the art at the time the invention was made to control read/write operation and regulate the process of accessing the register by a signal that toggles the access.

39. As per claim 10, Schulz teaches the flip-flop circuit steering the read and write accesses to the index register and the data register pointed to by the index register(abs., lines 1-14; col. 4, lines 28-67; col. 5, lines 1-40).

40. The combined teaching of Halstead, Nation and Schulz doesn't explicitly teach that resetting a flip-flop circuit after a read cycle.

41. However, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made that it was common to one of ordinary skill in the art at the time the invention was made that Flip flops are reset after read or write to reset the system and prepare the system for further processing.

Art Unit: 2195

42. As per claim 11, Schulz teaches the flip-flop circuit steering the read and write accesses to the index register and the data register pointed to by the index register(abs., lines 1-14; col. 4, lines 28-67; col. 5, lines 1-40).

43. The combined teaching of Halstead, Nation and Schulz doesn't explicitly teach that resetting a flip-flop circuit after a read cycle. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included flip-flop resetting after a read cycle because it was common to one of ordinary skill in the art at the time the invention was made that Flip flops are reset after read or write to reset the system and prepare the system for further processing.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6112273 A teaches Method and apparatus for handling system management interrupts (SMI) as well as, ordinary interrupts of peripherals such as PCMCIA cards.

US 20020078124 A1 teaches Hardware-assisted method for scheduling threads using data cache locality.

US 4493020 A teaches micro-programmed digital data processor employing microinstruction tasking and dynamic register allocation.

45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAROLINE ARCOS whose telephone number is

Art Unit: 2195

(571)270-3151. The examiner can normally be reached on Monday-Thursday 7:00 AM to 5:30 PM.

46. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

47. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

/Caroline Arcos/
Examiner, Art Unit 2195